On the Byrrhides of Australia, by the Rev. R. L. King, B.A.

[Read 22nd November, 1869.]

Although the family is not numerously represented in Australia, yet two of the genera, being peculiar to Australasia, are not without interest. The genus *Microchætes* was described by Mr. Hope, in the Transactions of the Entomological Society of London, (Vol. I., p. 153) and founded upon a species named by him *M. sphæricus*. The genus differs from the *Syncalypta* of Stephens, principally in the antennæ, of which the first joint is rather long, the second to the eighth gradually decreasing in length; the elytra are covered with tufts of stiff and generally truncate setæ analogous to those which exist in *Nosodendron*.

It is possible that future Entomologists will prefer reuniting *Microchætes* with *Syncalypta*, the comparative size of the different joints of so variable an organ as the antennæ being an unsafe character on which to rest a generic distinction. At any rate the new species which I am about to describe appears to form a passage from the one genus to the other, and at the same time to differ from them both in its tarsal developement. But that I think it probable that the genus *Microchætes* may not be retained eventually, I might have formed another genus out of my new species.

I am however under no doubt about the generic distinctness of my second new species, *Byzenia formicicola*. Its facial developement, the visibility as well as the proportions of its strange antennæ, and its curious elytra, all combine with its habits to point out a wide difference between it and the other members of the family. The remarkable forms of many of the coleoptera, which inhabit the nests of ants, have often attracted the attention of Entomologists; our present species is no exception.

I insert, from the original descriptions, the diagnosis of the species of *Microchætes* which are already known.

Genus I. Microchætes. Hope.

In this genus the eyes, mandibles, and labrum are quite concealed when the head is retracted into the thorax. The antennæ

are composed of one rather large basal joint, 2—8 gradually decreasing, and the remaining joints forming a club. All the tarsi are contractile, and received into a groove in the femur: the body is covered with tufts of short truncate setæ.

Sp. 1. *M. sphæricus.* Hope.

Totum corpus supra nigrum, fusco-tomentosum, pedibus piceis.
Long. 2 lin., lat. $1\frac{1}{2}$ lin.
Swan River.

The clypeus is rounded and slightly punctured. The thorax is marked with four tubercles placed almost on the middle of the back. The elytra are bristling with tubercles disposed in a triple series—the body beneath is concolorous.

Sp. 2. *M. scoparius.* Erichs.

Niger, opacus, nigrosetosus, elytris fasciculatis.
Long. prope 2 lin.
Tasmania.

This species is described (Erichs. arch. 1842, I., p. 153) as having the body black, opaque, covered above with very fine ashy setæ. Antennæ slender, piceous. Head densely rugulose punctate, the front sprinkled with short truncate black setæ. The thorax is short, the posterior angles elongate acuminate with numerous truncate setæ on the margin. Elytra substriate with numerous truncate setæ, mostly arranged in tufts. Body underneath and feet covered with short reclined setæ.

The Australian Museum collection contains specimens of the genus from N. S. Wales, Victoria, South Australia, Western Australia, and Tasmania. I am inclined to refer the Tasmanian specimens to the latter of these descriptions, and the rest to the former; yet not without some doubt. Hardly any two are alike on the back of the thorax, and therefore I cannot lay any stress upon the four dorsal tubercles mentioned by Hope. And although there is no doubt about the number of tufts or fasciculcs, composed of the characteristic short truncate setæ, I do not recognize in any of these specimens the tubercles disposed in a "triple series." Several of the Australian specimens are piceous beneath the body, but not all; others are as black as the Tasmanian specimens.

In the specimens from Melbourne the tufts are more numerous and coarse. But I cannot detect any difference which requires that they should be regarded as a distinct species.

Among the Museum specimens collected by Mr. Masters at King George's Sound, there is one which probably will form a new species, but it is in a bad state for description, and whether it was originally clothed with setæ disposed in tufts, or (as in *M. minor*) in lines it is now impossible to discern. It is black and about one-half the size of those which I regard as *M. sphœricus*.

Sp. 3. *M. minor.*

Niger, elytris striato-punctatis, squamis cinereis adpressis et setis erectis truncatis longitudinailter dispositis vestitis; pedibus piceis tetrameris.

Long. .07. poll.

Paramatta, under stones in grass; rare.

Sydney; *Mr. Masters.*

The very small size and the want of *tufts* of truncate setæ at once distinguish this from the former species. The truncate setæ are placed in the punctures of the elytra, and are thus arranged in regular lines.

The antennæ are 10-jointed; the first rather long; the succeeding joints gradually decrease in length to the 5th, which is the smallest of all; the remaining joints gradually increase in breadth, though not in length, to the tenth, which is as long as the three preceding. The tarsi are all tetramerous.

Genus II. Morychus. Erichs.

The genus *Morychus* of Erichsen is readily distinguished by having the anterior tarsi only concealed in the groove of the tibia; the labrum, the mandibles, and part of the eyes are visible when the head is retracted into the thorax. The elytra cover the whole of the abdomen. The genus has a somewhat wide range, viz:—from Siberia on the north to southern Africa. The detection of the genus in Australia is due to my friend Mrs. Kreusler of South Australia, from whom I have received a specimen, to which I have given the name. of—

Sp. 4. *M. heteromerus.*

Nigro-piceus, striatus, minute tuberculosus; antennis et pedibus piceis; tarsis heteromeris.

Long. .21; lat. .16 poll.

Gawler, South Australia. *Mrs. Kreusler.*

The nature of the tarsi is very remarkable, and thus, in Australia, we have in this one small family representatives of three of Latreille's primary divisions of the coleoptera. *Microchætes sphæricus* is pentamerous, *M. minor* is tetramerous, and our present species is heteromerous. Well might our late member, the learned author of the "Horæ Entomologicæ," say, that "absolute rules of generic distinction, founded upon minute differences of structure, are not only faults in themselves, but calculated to blind us altogether to those beautiful groups which the Entomologist has so often occasion to remark in nature."*

Genus III. Byzenia.

Labrum et mandibula semper conspicua, et antennarum articulus primus.

Mandibulum acutum, ad medium obsolete unidentatum.

Maxillæ bilobatæ.

Palpi labiales triarticulati *maxillares* 4-articulati, articulo ultimo precedente longiori.

Labrum transversum.

Antennæ 9-articulatæ, articulis 1 et 9 magnis, reliquis parvis.

Elytra brevia, totum abdomen non tegentia.

Pedes robusti.

Tarsorum articuli 1 et 5 longiores.

Corpus alatum.

Sp. 5. *B. formicicola.*

Piceus elytris gibbosis rivosis.

Long. .11.; lat. .07 poll.

Liverpool, in nests of ants.

This very remarkable and distinct form occurs in the nests

* Horæ Entomologicæ of W. S. MacLeay, p. 491.

of a large species of ant of the genus *Formica*. The species is readily known by its black colour ornamented on the abdomen with yellowish or bronzed setæ. The ant makes its nest in the ground under wood, rails, or logs, and the beetle is seen on the ground among the ants. Three or even four have been taken from a single nest at a time—a sultry afternoon in October—but I have never met with it elsewhere.

The head is so far retracted into the cavity of the thorax that the labrum and the mandibles and a part of the antennæ are alone visible. Of these latter organs, the first joint always, and the tip of the last joint generally, are seen. The first and the last joints are of considerable size; the first is long and broad and curved at the base; in repose it is brought down nearly to the mouth entirely concealing the eyes. The next three joints are small, the fourth being the smallest of all, 5—8 increase gradually, the ninth is nearly as long as the first, but almost cylindrical, rounded at the ends; both the first and the ninth are far larger than all the rest together. The mandibles are strong, sharp at the apex, with an obsolete denticle near the middle; the lower part is fringed with setæ. The maxillæ are small and bilobed. The labrum is transverse and ogee-shaped. The thorax is *very* transverse. The elytra are short, leaving exposed the last two joints of the abdomen. They are marked by four strong ridges all rising towards one point, and nearly meeting behind the shoulder, the apparent perforation between the points being fringed with a few stiff yellowish setæ. This peculiarity of formation gives the insect the appearance of being transversely divided nearly in the centre. The scutellum is small. The tarsi are all concealed in repose in grooves in the tibiæ, but the legs which are robust are not received into cavities, as in *Microchætes*. All the legs are very widely separated.

It is not easy to trace the affinities of this remarkable form. There is no question that it belongs to the family of the *Byrrhidæ*, notwithstanding the shortness of the elytra leaving the abdomen partly uncovered, and the great distance of all the feet from each other—particulars in which it is distinguished, I think, from all the other members of the group. The nine jointed antennæ are also peculiar to itself alone of all the *Byrrhidæ*.